

## DESCRIPTIONS OF TWO NEW SPECIES OF SPINNING MITES.

BY E. A. MCGREGOR,

*Of the Bureau of Entomology, United States Department of Agriculture.****Tetranychus californicus***, new species.

This minute species is very distinct from other known tetranychids. The penis suggests a relationship with *T. salicicola* Zacher, *T. oregonensis* McG., *T. willamettei* McG., *T. monticolus* McG., and *T. flavus* Ewing, but other characters at once distinguish it from these.

Female.—Color pale yellowish, with a few slightly darker markings. Body considerably compressed dorso-ventrally. A series of 13 females averaged 0.255 mm. in length. Palpus rather short; claw abruptly pointed. "Thumb" of palpus wider than long, bearing at its tip a terminal "finger" which is nearly twice as long as thick, width of "finger" at base being about 1/3 width of "thumb" at tip. Two additional digituli arise terminally from the "thumb," dorsad of the terminal "finger"; at least two setae also arise from the "thumb." Legs relatively short and thick, femur about one-fifth again as long as tarsus. Relative length of joints as follows: Trochanter, 12; femur, 42; patella, 21; tibia, 22; tarsus, 35. Tip of tarsus bearing a claw, which is 6-cleft from a point somewhat proximad of the middle; the six claw divisions bent strongly ventrad from axis of basal (fused) portion. The usual four tenent hairs arise at the sides of the claw base. Viewed ventrally the main claw appears to split a short distance from the base into two closely appressed parts, each part bearing three of the claw spurs. (This is actually the usual condition with *Tetranychus*.) Collar trachea with paired units consisting of tubes of relatively uniform caliber, extending forward parallel to one another for about one-third their length, then deflected outward, downward, and forward, each ending in a slightly enlarged terminal chamber.

A series of 11 males averaged 0.218 mm. in length. The penis is rather simple in structure, the shaft is very gradually attenuated to a rather sharp tip; the distal third is slightly undulating; as viewed through some thickness of body tissues, there appears to be a rather weak, acute basilar lobe, located unusually near the proximal end of the inner lobe.

*Type slide*.—Cat. No. 960, U. S. N. M.

Abundant on *populus fremonti*, San Joaquin Valley, California, causing the trees to become nearly defoliated at times. Collected by the author, 8 miles northwest of Porterville, California.

## PLATE I.

*Tetranychus californicus*.

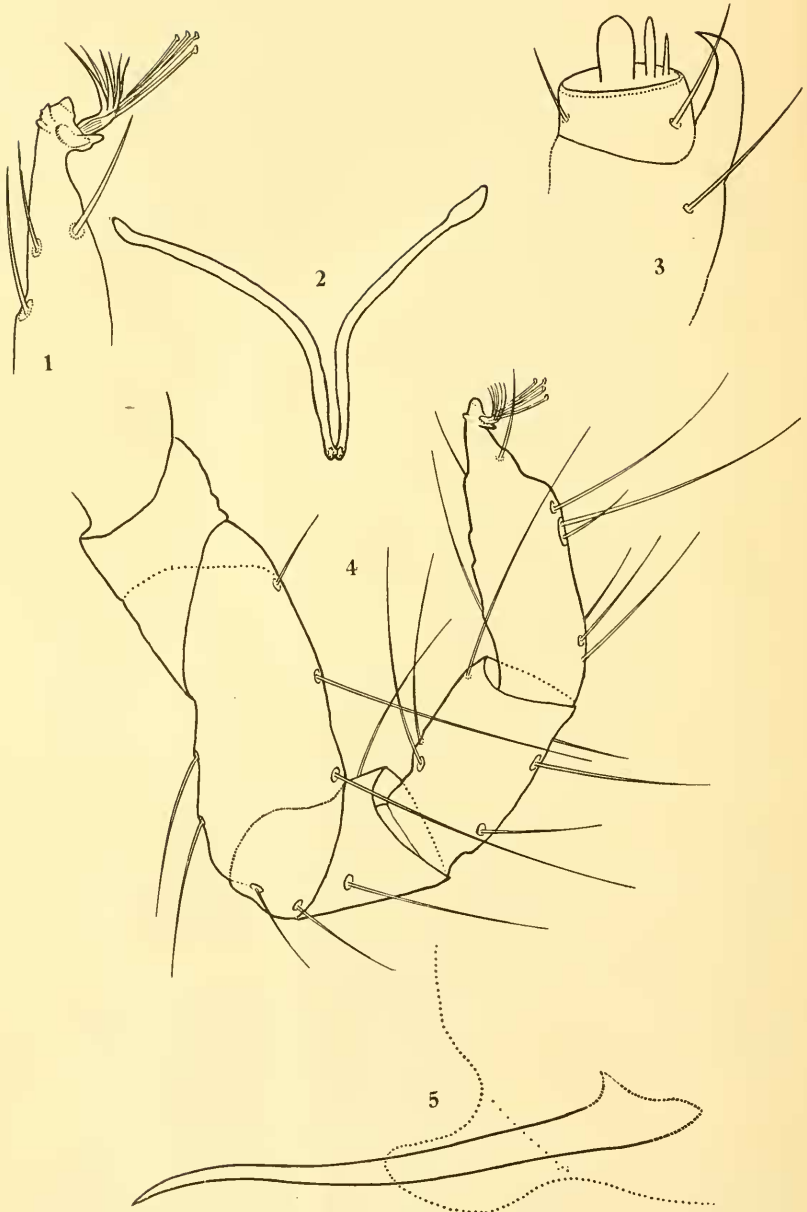
Fig. 1.—Tip of tarsus showing tarsal appendages.

Fig. 2.—Collar trachea (viewed dorsally).

Fig. 3.—Tip of palpus with terminal appendages (viewed through overlying tissues).

Fig. 4.—Foreleg (5 terminal joints).

Fig. 5.—Penis.



MITES—MC GREGOR.

*Schizotetranychus fluvialis*, new species.

This smallish mite is certainly referable to the genus *Schizotetranychus* Trägårdh, of which only a very few species have yet been discovered. In America the closest ally is probably *S. latitarsus* Ewing, which is readily distinguished from the present species by the former's shorter palpal "thumb," which lacks the digit, as well as by the slightly hooked palpal claw, long prominent dorsal setae, and strongly arched abdomen of *latitarsus*.

Female.—Color pale. Body rather elongate for its width, and somewhat compressed dorso-ventrally. A series of females averaged 0.335 mm. in length. Body setae very short and inconspicuous. Palpus unusually long and readily hinging ventrad; claw fairly well hooked, bluntly pointed. "Thumb" of palpus a trifle wider than long, exceeding the claw, bearing at its tip a digit which is twice as long as thick, and the width of which at base is about 1/3 the width of "thumb" at tip; a second spine-like digit arises terminally, and three additional digituli arise from the dorso-distal aspect of the "thumb"; two shortish setae, also, arise from this terminal palpal joint. Legs relatively short; femur about 3 times as long as wide, almost two-thirds again as long as the tarsus; relative lengths of joints as follows: Trochanter, 10; femur, 25; patella, 12; tibia, 13; tarsus, 16. Tip of tarsus bearing a claw which is cleft for the greater part of its length into two divaricate, equal parts, which in profile are not strongly hooked; claw proper with no appendages. The four usual tenent hairs are present. Collar trachea extending downward and backward as a rather straight, even-calibered tube, then abruptly bent at nearly right angles into a very short, wider tube. Mandibular plate  $2\frac{2}{3}$  as long as wide, sharply rounded anteriorly.

Male.—A series of measured males averaged 0.217 mm. in length. Penis with inner lobe rod-like, considerably longer than shaft; basilar lobe obtuse angled; shaft proximally thicker than inner lobe, and tapering rather abruptly distally; hook (with distal part of shaft) rather S-shaped, the shaft bent abruptly upward and again abruptly backward to form a pseudo-barb.

*Type slide*.—Cat. No. 961, U. S. N. M.

Common on the native grass *Epicampes rigens* Benth., commonly known as deer-grass, growing on the banks of the Kaweah River, near Lemon Cove, California. The leaf blades of this grass are very deeply fluted, and the mites live and feed in the interstices between the leaf ribs. (This habitat may account for the unusually long palpi which may have evolved through the need of reaching to the bottom of the leaf flutings; see Plate 2, fig. 9, A.)

Collected by the author.

## PLATE 2.

*Schizotetranychus fluvialis*.

- Fig. 1.—Tip of tarsus showing tarsal appendages (viewed laterally).  
 Fig. 2.—Tip of palpus with terminal appendages (viewed laterally).

Fig. 3.—Tip of tarsus (viewed ventrally).

Fig. 4.—Collar trachea (lateral view).

Fig. 5.—Tip of tarsus (viewed latero-ventrally).

Fig. 6.—Penis (ventral view).

Fig. 7.—Lateral view of female, containing one mature ova (3 legs amputated; palpi well separated).

Fig. 8.—Mandibular plate.

Fig. 9.—Cross section of one-half of leaf blade of host plant ("A" shows diagrammatically position of mite when feeding).

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### VESPULA REARS SUCCESSIVE BROODS IN THE SAME CELLS (HYMENOPTERA: VESPILAE).

By J. B. PARKER.

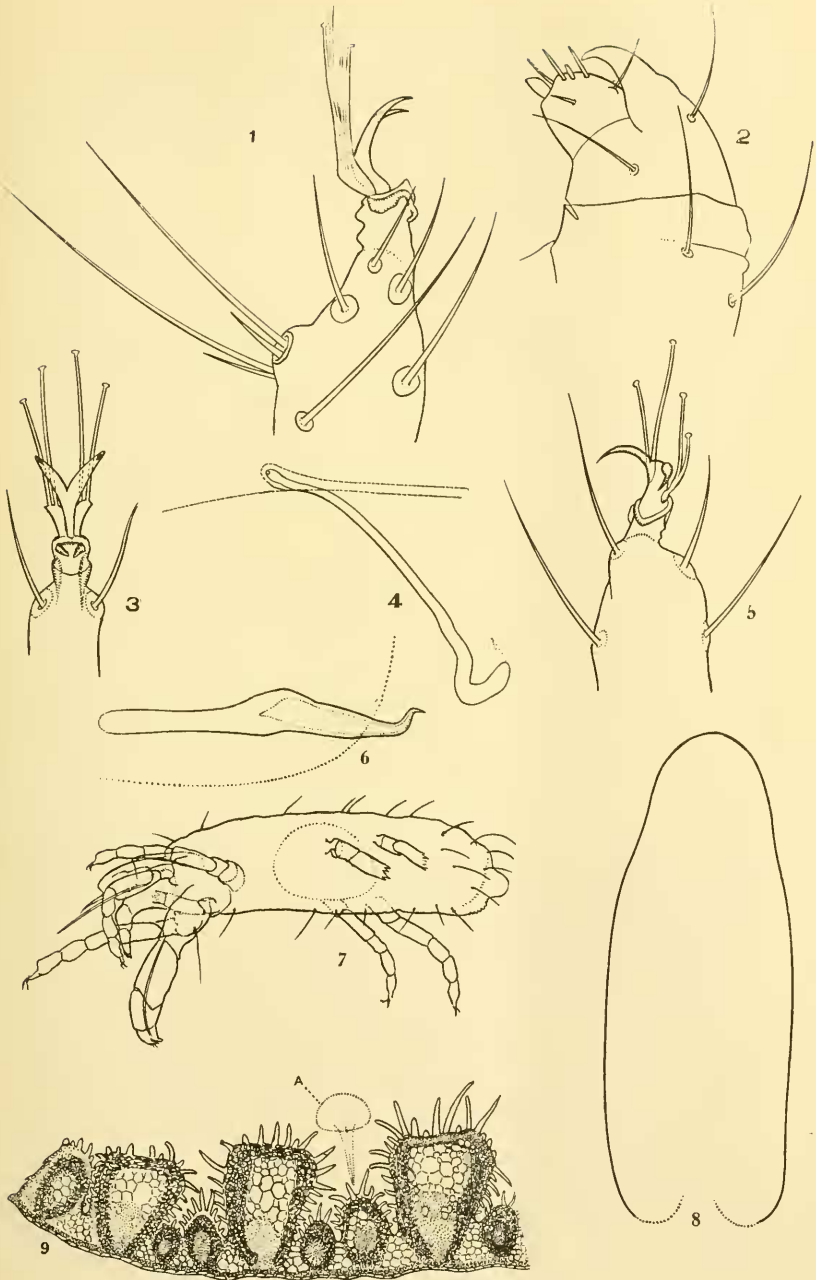
Some time ago I was asked whether the White-faced Hornet, *Vespula (Dolichovespula) maculata* (Linn.), rears more than a single young in the brood cells composing the paper combs within its nest. At the time I did not know and an inquiry seemed to show that no one had ever taken the trouble to find out. On November 11, 1926, I found a large nest of this species, and from it removed the combs, four in number, placed one above the other. In the lower combs were found several fully developed females, still alive but too weak to emerge. By taking the topmost comb, the one first constructed, and splitting the cells lengthwise with a section razor, I found the cells in the center of this comb had been used several times. Since each larva before transforming to the pupa spins about itself, within the cell, a tough silken cocoon, which remains in the cell after the adult has emerged, the number of these silken cocoons found in a cell indicated the number of larvae that have been reared in that cell. The greatest number found in any cell in this nest was five. Specimens of sectioned cells from this nest have been placed in the collection of the United States National Museum.

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### SUBGENERA OFTEN PREFERABLE TO GENERA.

By W. L. McATEE.

It must be admitted that the normal conception of a genus under the binomial system of nomenclature is that of a group of species. The extreme generic splitter is working, even if unconsciously, toward a monomial nomenclature, the inexpediency of which needs no proving. If we are to remain binomial authors, the only type recognized by prevailing codes



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